WE regret to announce the death of SIR CHARLES ALEXANDER CAMERON on Sunday, February 27, at Dublin. Sir Charles was born in Dublin in 1830, and devoted most of his lifetime to the study of public health in his birthplace. He was a fellow of the Royal Colleges of Physicians and Surgeons of Ireland, of the latter of which he had been president, and he held a number of diplomas from various public health and sanitary institutions. From 1883–89 he was president of the Royal Institute of Public Health, and from 1893–94 he served as president of the Society of Public Analysts. Sir Charles was also a member of numerous foreign medical societies. For more than half a century he had control of the Public Health Department of Dublin Corporation, and had been public analyst for a large area round Dublin since 1862. In 1902 he was the recipient of the Harben gold medal. His publications afford a measure of the scope of his interests in science. The best known of his books is probably "The History of the Royal College of Surgeons of Ireland," the last edition of which was published in 1916. He was also the author of books on agricultural chemistry and stock-feeding, as well as of numerous works and papers dealing with public health and hygiene. He received knighthood in 1885, and was created C.B. in 1899.

THE death of MR. JAMES KEITH on February 23 is announced in *Engineering* for March 4. Mr. Keith was the founder and managing director of the firm of James Keith and Blackman, the well-known heating and ventilating engineers, and much of the apparatus manufactured by his firm was of his invention. He was an associate member of the Institution of Civil Engineers, and a member of the Institution of Mechanical Engineers; he was also the author of numerous publications and contributions to the technical Press. Mr. Keith gave expert evidence in 1897 at the Board of Trade inquiry into the ventilation of the London Underground Railways, and also in 1903–4 before the Select Committee of the House of Commons on the ventilation of the Houses of Parliament.

Notes.

PROF. A. S. EDDINGTON has been elected president of the Royal Astronomical Society in succession to Prof. A. Fowler.

AT the meeting of the Royal Society on May 5 the Croonian lecture will be delivered by Dr. Henry Head on "Release of Function in the Nervous System."

THE Principal Trustees of the British Museum have appointed Mr. C. Tate Regan to be keeper of zoology and Dr. G. F. Herbert Smith assistant secretary at the Natural History Museum, South Kensington; also Mr. Robert L. Hobson and Mr. Reginald A. Smith deputy keepers in the department of British and medieval antiquities.

THE Toronto correspondent of the *Times* announces that a report by a Committee of the Dominion Privy Council, approved by the Duke of Devonshire, the Governor-General, expresses to Mr. Vilhjalmur Stefansson "the thanks of the Government of Canada in recognition and appreciation of your distinguished services rendered to Canada in connection with your explorations in the Arctic regions."

THE Radio Research Board of the Department of Scientific and Industrial Research, 16 Old Queen Street, S.W.1, is requiring workers of high academic qualification for the purpose of undertaking research work in wireless telegraphy. The yearly remuneration offered is from 350*l.* to 550*l.* In making application for the positions candidates should give particulars of any papers published by them in scientific journals.

THE following were elected fellows of the Royal Society of Edinburgh at the ordinary meeting on March 7:—Dr. Nelson Annandale, Mr. W. Arthur, Mr. B. B. Baker, Dr. Archibald Barr, Mr. J. Bartholomew, Mr. A. Bruce, Mr. Andrew Campbell, Dr. Rasik Lal Datta, Dr. John Dougall, Dr. C. V. Drysdale, Mr. G. T. Forrest, Dr. W. Gibson, Dr. J. W. H. Harrison, Mr. J. A. G. Lamb, the Rev. A. E. Laurie, Mr. Neil M'Arthur, Mr. D. B. M'Quistan, Dr. T. M. MacRobert, Dr. J. M'Whan, Mr. J. Mathieson, Sir G. H. Pollard, Prof. E. B. Ross, the Right Hon. J. P. Smith, Prof. N. K. Smith, and Dr. I. S. Stewart.

AT a meeting of the Royal Dublin Society on February 22, the president, Lord Rathdonnell, in the chair, the Boyle medal of the society was awarded to Dr. George H. Pethybridge. In recommending Dr. Pethybridge's name as that of a suitable recipient of the Boyle medal, the science committee of the Royal Dublin Society directed special attention to his researches in the elucidation of the life-history of the fungi which cause blight in potatoes, and to his discovery of a process in the development of the sexual organs of *Phytophthora erythroseptica,* Pethy., and of *P. infestans,* Mont., until then unknown.

THE Geological Survey has just issued vol. xiv. of its Special Reports on the Mineral Resources of Great Britain, this being devoted to a description of the fireclays; it thus forms a companion volume to vol. vi., in which the other refractory materials such as ganister, etc., are described, and there is naturally a certain amount of overlapping between these two. The present report deals with the geology of the fireclays, and particularly with the available reserves of this material; it is intended that the chemistry of the subject should be dealt with in a separate volume, upon which Dr. J. W. Mellor is at present engaged. This is the first time that any serious attempt has been made to collect information upon this subject, the economic importance of which is very great, having regard to the fact that high-grade refractory materials are indispensable to so many of our key industries.

THE following are the lecture arrangements at the Royal Institution after Easter:—Prof. R. A. Sampson on (1) The Nebular Hypothesis and (2) Measurement of Starlight; Prof. Keith, four lectures on Darwin's Theory of Man's Origin; Mr. Clodd on Occultism; Sir James Frazer on (1) Roman Life (Time of Pliny the Younger) and (2) London Life (Time of Addison); Dr. C. T. R. Wilson on Thunderstorms (the Tyndall lectures); Mr. H. S. Foxwell on Nationalisation and Bureaucracy; Dr. C. S. Myers on Psychological Studies: (1) Localisation of Sound and (2) Appreciation of Music; Mr. D. S. MacColl on War Graves and Monuments; Sir Alexander Mackenzie on Beethoven; Dr. H. H. Dale on Poisons and Antidotes; Mr. M. Y. Oldham on The Great Epoch of Exploration: (1) Portugal and (2) Spain; Prof. E. C. C. Baly on Chemical Reaction; Mr. F. Legge on Gnosticism and the Science of Religions; and Dr. R. S. Rait on (1) Scotland and France and (2) Scott and Shakespeare. The Friday evening meetings will be resumed on April 8, when Dr. R. H. A. Plimmer will deliver a discourse on Quality of Protein in Nutrition. Succeeding discourses will probably be given by Mr. Ernest Law, Sir J. J. Thomson, Sir James Walker, Sir Frank Dyson, Sir Robert Robertson, Dr. Bateson, Prof. Starling, Mr. A. Mallock, Dr. Leonard Huxley, and Dr. A. G. Webster.

AMONG the centenaries which fall due this year is that of Sir Richard F. Burton, the Oriental scholar and explorer, who was born on March 19, 1821. To the enterprise and daring which characterised Burton's travels in many unexplored parts of the world were added unusual powers of observation and a passion for scholarly research which together made him one of the most successful explorers of the nineteenth century. Practically all his numerous volumes remain standard works on the lands with which they deal. Among Burton's most striking exploits were his pilgrimage in disguise to Mecca and Medina in 1853–54 and his successful journey in 1855 to Harar, the forbidden city of Abyssinia, which several explorers had tried in vain to reach. In 1858 the expedition which Burton led to Central Africa in company with Speke discovered Lakes Tanganyika and Victoria, and so laid the foundations of modern knowledge of the sources of the Nile. Later work included important explorations in the Cameroons, the Gold Coast, Dahomey, and the Congo, and travels in the Rockies, Brazil, and Iceland. In addition to his geographical and anthropological volumes, Burton published a translation, with copious notes, of "The Arabian Nights."

IN the House of Lords on March 2 Lord Sudeley moved a resolution requesting the Government to take immediate steps to extend the employment of guide-lecturers and the sale of pictorial illustrations to all museums and similar institutions which are under Government control or influence. By this combination Lord Sudeley escapes the charge of asking only for fresh expenditure. The lecturers, it is true, cost money, but the postcards and similar reproductions make money. That has been the experience of the British Museum at Bloomsbury, and we have long wondered why the sale of postcards and photographs has not been taken up by the Natural History Departments at South Kensington. In the debate initiated by Lord Sudeley a year ago the Primate suggested that the system might be extended to provincial museums. Some, like Colchester, already issue postcards; others would doubtless be glad to utilise the experience of the Clarendon Press and the British Museum authorities. The profits, as Lord Sudeley suggested, might help to pay for the guide-lecturers. A pooling of funds under some central organisation might provide lecturers each of whom could deal with a limited geographical group of the smaller museums.

THE annual general meeting of the Chemical Society will be held at Burlington House on Thursday, March 17, at 4 p.m., when the result of the ballot for the election of council will be announced and the retiring president, Sir James J. Dobbie, will deliver his presidential address. The presentation of the Longstaff medal to Prof. J. F. Thorpe will also be made. At the anniversary dinner of the society, to be held at the Hotel Cecil, Strand, on the same day at 7 for 7.30 p.m., the past-presidents who have completed their jubilee as fellows of the society have been invited as guests of honour. Sir James Dewar, who was elected on December 1, 1870, and served as president from 1897–99; Sir Edward Thorpe, elected on February 16, 1871, and served as president from 1899–1901; and Sir W. A. Tilden, elected on June 1, 1865, and served as president from 1903–5, have accepted invitations to be present. At the first banquet given on November 11, 1898, during the presidency of Sir James Dewar, to those past-presidents who had been fellows for fifty years, the society entertained Sir Joseph Gilbert, Sir Edward Frankland, Prof. William Odling, Sir Frederick Abel, Prof. A. W. Williamson, and Dr. John Hall Gladstone; whilst a later banquet was held on November 11, 1910, under the presidency of Prof. H. B. Dixon, in honour of Sir Henry Roscoe, Sir William Crookes, Dr. Hugo Müller, Dr. A. G. Vernon Harcourt, and Prof. William Odling, who had completed their jubilee as fellows.

THE route to Mount Everest is discussed in the *Geographical Journal* for February by Lt.-Col. C. H. Bury, who has been appointed chief of the projected expedition. Col. Bury favours the route from Darjeeling over the Jelep La Pass to Phari, and then *via* the Chumbi Valley, Kampa Dzong, and Tingri Dzong to the northern side of Mount Everest. The direct and shorter road to Kampa Dzong *via* Gangtok and the Tista Valley is more difficult for pack-animals, for it traverses in the Tista Valley a region of heavy rainfall where leeches abound. The route *via* Jelep La is now the main trade route into Tibet, and is traversed constantly by numbers of mules and pack-ponies. From Kampa Dzong to Tingri Dzong Col. Bury foresees no difficulties, and estimates that the journey should take about seven days in broad valleys about 15,000 ft. above sea-level. No advantage seems likely to be gained by making use of the southern approach to Mount Everest by the Arun Valley, even if the Nepal Government gave consent. Col. Bury considers that aeroplanes would be useless in Tibet on account of the low density of the atmosphere, which would make it impossible for the present type of machine to rise off the ground. For general transport purposes he advocates yaks, which are very sure-footed and can be used up to altitudes of 20,000 ft. The *Geographical Journal* announces that official news of the expedition will be given solely through the Royal Geographical Society and the Alpine Club.

IN the report of the Corresponding Societies Committee of the British Association for this year, a welcome change of policy is inaugurated in regard to the list of papers which the committee publishes annually. Hitherto this bibliography has been limited to papers appearing in the publications of societies affiliated to this committee. In that form it was incomplete, contained much that was of no value whatever, and was of little or no use to serious workers. By a judicious weeding-out of all subjects which are adequately dealt with in other bibliographies or by other societies, the list of papers this year has been confined to those dealing with the zoology, botany, and prehistoric archæology of the British Isles. By extending its scope to include every British publication, whether of an affiliated society or not, the bibliography aims at a complete record of the work done in these subjects in this country. In its revised form the bibliography will be of immense service to those engaged in faunistic work and regional surveys. It covers the period from June to December, 1919, and appears to be remarkably complete. Only two omissions were detected in a list of more than a hundred references to the fauna of a particular district. The *Field* and *Country Life* are not included in the journals catalogued; perhaps they are regarded as newspapers, and therefore not within the scope of scientific journals. They, however, frequently contain records of great value, and every worker on British natural history has of necessity to search their pages for past records. The bibliography could be made more useful by a more detailed indication of the scope of each paper. For instance, all papers dealing with birds could be prefixed by the letter O instead of Z, and a similar distinctive letter could be arranged for all groups of animals and plants. Mr. T. Sheppard, the compiler, is to be congratulated on a useful piece of work, and thanked for the care and completeness with which it has been done.

DR. JAMES RITCHIE in the January–February issue of the *Scottish Naturalist* begins a survey of the occurrence of the walrus in northern Scotland. He shows that the modern walrus (*Trichechus rosmarus*) is a post-Glacial species which in prehistoric times ranged in British seas far south of its present haunts, while up to the middle of the sixteenth century it was evidently abundant in the Orkneys, where it was extensively hunted for the sake of its ivory, oil, and skin. Its extinction as a resident species was no doubt due, as in other parts of the world, to indiscriminate slaughter for economic purposes.

THE common fox introduced into Australia somewhere about 1860 has for many years been a pest, but, according to an article by Mr. G. A. Keartland in the *Victorian Naturalist* for December last, the thousands annually slain and thrown away are to become a source of revenue; no fewer than 150,000 skins have already been disposed of in the fur market. The author is, however, mistaken in believing that in Europe this animal produces no more than two at a birth, and he is also mistaken in supposing that the hare in Great Britain produces no more than one young in a year. Thus his contention that these two animals have become more prolific in Australia is not justified.

DR. A. E. BARCLAY in the *Archives of Radiology and Electrotherapy* (No. 246, January, 1921, p. 225) indicates a danger arising from the Coolidge tube when used for X-ray screen work. Secondary radiation emanates from the anticathode, and the secondary image may pass through the screening diaphragm used; it is widely dispersed and produces undesirable effects. The recognition of this secondary radiation is of very great importance to the safety of the worker. The danger can be rectified by inverting the tube or by providing a hood for the anticathode.

AN interesting article on bacteriology in relation to commercial meat products appears in the *New Zealand Journal of Science and Technology* for November (vol. iii., No. 4), in which Mr. A. M. Wright describes the process of meat canning and the causes of failure. Frozen meat is also discussed, and an interesting experiment on the preservative action of cold described. A tub of water was inoculated with many millions of putrefactive bacteria, pieces of meat were immersed in it, and the tub was then placed in a freezing chamber and kept for five months at −15°–20° C. At the end of this time the meat was examined; it was perfectly sweet and fresh, and sections showed no invasion of the meat by the putrefactive organisms.

Medical Science: Abstracts and Reviews for February (vol. iii., No. 5) contains, among other articles, summaries of recent work upon the radiological treatment of malignant disease, botulism, and epidemic hiccough. Botulism is a condition due to the ingestion of food containing poisons elaborated by an anaerobic bacillus, *B. botulinus*. Several outbreaks of botulism have occurred of late in the United States in connection with canned vegetable products, *e.g.* olives, asparagus, and beetroot. At Kiel an epidemic occurred from the consumption of pickled herrings. No outbreaks have been recorded in this country, but it is of interest to recall that the first cases of encephalitis lethargica occurring in 1918 were mistaken for it. Epidemic hiccough has been prevalent in France during this winter, and several French physicians believe that it is a manifestation of encephalitis lethargica.

WE have received part 12 (pp. 351–496) of the second volume of a recently established South American journal, *Physis*, which is the organ of the Argentine Society of Natural Sciences. It is well printed and illustrated, and is evidently a journal which cannot be overlooked by European students. The three most important articles in the part before us are by

F. Santschi on South American ants, by G. Bonarelli on the human mandibles of Bañolas, and by J. Brethes on the South American bees of the genus Xylocopa, Latr. It may be added that two out of three of the above papers are written in French.

The presidential address delivered by Comdr. J. J. Walker before the Entomological Society on January 19 dealt with "Some Aspects of Insect Life in New Zealand." It contains interesting information useful to the student of geographical distribution. As the author points out, the noble forests of the two islands are now little more than memories, and more than 350 species of introduced trees, shrubs, and weeds are ousting what is left of the indigenous flora. It is also a matter of certainty that the exceptional fauna of New Zealand is to a great extent doomed to extinction, and no effort should be lost to acquire as much information as possible concerning the animal life before the latter also is a thing of the past. Comdr. Walker comments on the very general opinion that New Zealand possesses the most limited insect fauna of any land of the same extent. He attributes this belief to the nocturnal or unobtrusive habits of many species, a large number being either inactive or retiring; many are cryptically coloured and hard to detect, and others very local. About 4000 species of Coleoptera are known, but the Cetoniadæ and Cassididæ are absent. More than 1000 species of Lepidoptera inhabit New Zealand, and all except about 70 are indigenous. The butterflies, however, are very poorly represented, only 15 species being recorded. Diptera are abundant, but Hemiptera and Hymenoptera are comparatively few.

During the meeting of the Science Masters' Association at Oxford on January 5 and 6, some interesting demonstrations (with exhibits) were given by Mr. T. V. Barker in the mineralogical department of the University Museum on the subject of the study of crystals in schools, and a pamphlet of "Practical Suggestions" has been drawn up embodying the main facts dealt with. It is designed to amplify a previous pamphlet which was noticed in Nature of September 2 last, p. 28. The preparation of solutions for crystallisation, instructions for the screen-projection of the crystals grown, the nature of crystals, isomorphism, polymorphism, and crystal structure as revealed by simple measurements were a few of the subjects dealt with in an attractive manner. As an example of the style adopted, a few lines from the reference to the isomorphism of the two acid phosphates of potassium and ammonium may be quoted:—"When the pupil has observed and measured both substances [under the microscope], he will agree with Mitscherlich that the two forms are isomorphous in the literal sense; and if some two years later he came to measure them with the reflecting goniometer he would, like Mitscherlich, revise his opinion and conclude that they are closely similar, but not identical, in angles."

The variations of "mean sea-level" on the Flemish coast have been analysed by Dr. Bruno Schulz and the results published by the Deutsche Seewarte (*Aerologische und Hydrographische Beobachtungen den Deutschen Marine-Stationen während der Kriegszeit*, 1914–18, Heft 1). Owing to war conditions full weather information was lacking, and the paper is chiefly concerned with long-period oscillations and with the correlation between non-periodic variations and local wind. Formulæ are given as representing these effects. It is interesting to note that it was impossible to use as data the difference between observed and predicted tides owing to the obvious errors of the latter, and daily means of hourly heights were used in conjunction with monthly and annual means. The wind effects are sorted according to direction and strength. The best results are found to be given by comparing the tidal height at a given time with the wind about three hours earlier. After allowing for wind there is a residual effect attributed to air-pressure; the ratio between simultaneous changes in sea-level and in barometer is found to have an average value of 10·3, the statical value being 13·4. Apparently the long-period oscillations, wind effects, and air-pressure effects are treated as being quite independent. There is great need for further work on these important problems, especially in this country.

In his presidential address to the Optical Society on February 10 Mr. Robert S. Whipple emphasised the influence of the design of scientific instruments on their accuracy, sensitivity, and cost of production. An instrument may be rendered ineffective by bad design of the moving parts, by unsuitability of the materials employed, or by bad workmanship. The selection of the materials, however, is part of the design, and good design will often minimise the effect of bad workmanship, though the converse is not true. A consideration of the fundamental principles of instrument construction shows the advantages of the geometric form of design. By geometric design internal strain in the parts of an instrument can be greatly reduced and backlash between the different parts eliminated. Geometric design may also simplify construction and thus materially reduce the cost of manufacture. The new applications of research to industry in many cases involve the new application of an old instrument. Thus the research instrument of to-day becomes the tool of to-morrow. In designing an instrument the manufacturer should, therefore, always have in mind the possibility of quantity production, so that the instrument can be readily developed from its laboratory form to one suitable for the workshop and capable of being manufactured on a large scale. Cheap production is thus rendered possible, and this is an important factor, especially in view of the keen competition which the scientific instrument industry of this country has now to meet.

Part ii. of the Transactions of the Institution of Engineers and Shipbuilders in Scotland contains a paper by Prof. A. L. Mellanby and W. Kerr on pressure-flow experiments on steam nozzles. This paper is the second of a series on the same subject, the preceding paper having been presented to the British Association in August last. The measurements of pressure were carried out by means of a search-tube, which, when moved along the jet, gave the pressure at any chosen position. The search-tube has already given excellent results in the hands of Prof. Stodola, but the method of analysis adopted in the present series is believed to be new. The results are exhibited in the form of curves, and the following are some of the author's deductions:—The purely convergent form of nozzle operates very much in accordance with theoretical ideas; it has a smooth expansion line in agreement with its well-rounded form, and a maximum range approximately in line with the theoretical critical drop. The convergent-parallel type scarcely acts in keeping with preconceived ideas; this form of nozzle should be considered one of extended convergence only. In both the above types theory demands a maximum range limited to a pressure ratio of 0·55; the actual ranges have only rough agreement with this figure. The convergent-divergent type has one over-all range in which the fall of pressure is continuous, but the throat pressure seems always to be below the theoretical. Sharp-entranced nozzles were also experimented with.

WITH reference to the letter published in NATURE of February 3 discussing coloured thinking and thought-forms, Mr. G. Stridsberg, of Stockholm, wishes to direct attention to a communication by Prof. H. Mygind, of Copenhagen, which appeared in the Danish review *Tilskueren* for 1884 (pp. 361–78) entitled "Om Erinring og Fantasi aforistiske Betragtninger" ("Aphorisms on Memory and Imagination").

A LENGTHY catalogue (No. 197) of scientific books and publications of learned societies, consisting of upwards of 2000 items, has reached us from Messrs. W. Heffer and Sons, Ltd., Cambridge. As will be seen by the following table of contents, it contains titles of works in most of the sciences. It should therefore appeal to many readers of NATURE, who can obtain the catalogue upon request. The list is classified as follows:—Mathematics, Physics, Astronomy, and Early Philosophy; Engineering; Agriculture, Husbandry, and Farriery; Anthropology and Ethnology; Botany; Chemistry, Chemical Technology, and Metallurgy; Geology, Mineralogy, and Palæontology; Zoology and Biology; Physiology, Anatomy, and Medicine; Portraits of Men of Science; Psychology and Psycho-Analysis; and Addenda.

A CATALOGUE (No. 410) of antiquarian and bibliographic interest has just been issued by Mr. F. Edwards, 83 High Street, Marylebone, W.1. It gives particulars of some 300 books, maps, plans, and engravings relating to London and its vicinity, and will be sent free upon application.

THE Smithsonian Institution issues a classified list of its publications available for distribution to scientific workers either gratis or at the prices indicated. Publications of the United States National Museum and of the Bureau of American Ethnology are not included. The list before us, which is Publication 2585, is brought down to August 21, 1920.

Our Astronomical Column.

LARGE METEORS ON MARCH 1 AND 2.—Mr. W. F. Denning, of Bristol, writes:—"On the evening of Tuesday, March 1, two large meteors were observed, and on the following night three others were recorded. The most brilliant of them all appeared on March 2, at 10 p.m. It was seen at Bristol, at Dunton Green, Kent, at Holt, Norfolk, and at other places. It was a very fine object, and gave a flash which lit up the sky. Its radiant point was a few degrees east of δ Leonis, and the path of the meteor was over the English Channel approximately from Dieppe, France, towards the Isle of Wight, but reaching only about half that distance. Observations are still coming to hand, and the real path will be calculated from them. It has been several times pointed out that the first few nights of March are specially distinguished by apparitions of bright meteors, although no periodic shower is known to occur on those dates. There appear, however, to be several fairly active displays in progress, and from the evidence obtained this year we may be enabled to determine their radiant points accurately."

PONS-WINNECKE'S COMET.—This comet has not yet been detected—which is a matter for surprise. In 1915 it was photographed five months before perihelion, and it should now be within the reach of moderate instruments, especially as it is very favourably placed in the morning sky. The following elements are likely to be near the truth:—ω 174°, ☊ 96°, i 19·5°, q 1·01, log a 0·509, e 0·687. The most uncertain element is the date of perihelion. The following ephemerides for Greenwich midnight are based on the assumed dates:—1921 June 13·5 and June 21·5. The uncertainty is considerably greater than eight days, so the search should extend beyond the limits of the ephemerides; these, however, should define the line on which it lies with tolerable precision:

		R.A.	N. Decl.	log r	log Δ
		h. m. s.	° ′		
$T=1921$ *June* 13·5.					
March	7	14 47 44	25 58	0·2126	9·9291
	15	15 1 16	28 42	0·1932	9·8785
	23	15 15 48	31 39	0·1729	9·8269
	31	15 30 23	34 51	0·1519	9·7731
$T=1921$ *June* 21·5.					
March	7	14 13 18	29 31	0·2317	9·9453
	15	14 21 12	32 35	0·2126	9·8984
	23	14 27 8	35 58	0·1932	9·8522
	31	14 32 23	39 26	0·1729	9·8064

The search should be carried on assiduously up to March 20, after which the moon will interfere.

TWO NEBULÆ WITH UNPARALLELED VELOCITIES.—Prof. V. M. Slipher announces that the spiral nebulæ N.G.C. 584 (R.A. 1h. 27·3m., declination −7° 16′) and N.G.C. 936 (R.A. 2h. 23m., declination −1° 33′) have extremely high recessional velocities, which are 1800 and 1300 km./sec. respectively. There is a decided preponderance of recessional motion indicated for the spiral nebulæ.

Prof. Eddington ("Report on the Relativity Theory of Gravitation," p. 89) suggested that these high velocities may not be real, but a result of the curvature of space in Einstein's system, according to which very distant objects would have their spectral lines shifted towards the red.